

Appl. No. 09/612,132
Amdt. Dated September 8, 2004
Reply to Office action of May 10, 2004
Attorney Docket No. P11885-US1
EUS/J/P/04-2104

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for sending information data between at least two transceivers in a telecommunication system, wherein the information data is transmitted from the sending side of a transceiver to the receiving side of one or more other transceivers in form of digital signals having a given sampling frequency, which signals are played out at said receiving side in a controlled way, comprising the following steps:

- a) estimation of the sender's sampling frequency at said sending side,
- b) transmitting the estimation to said receiving side, and
- c) controlling the play-out of the received data at said receiving side by means of the sampling rate estimated at said sending side to avoid delays in the presentation, wherein the controlling of the play-out of received data at said receiving side by means of the sampling rate estimated at said sending side is carried out by estimation of the receiver's sampling frequency at said receiving side and performing a compensation of the difference in said estimated sampling frequencies at said sending and receiving sides by a sample rate conversion method,

wherein the estimation of the sampling rate in step a) is carried out in form of a calculation based on the time measured between two events and the number of samples that has been sampled between them, and wherein a ticking central processing unit (CPU) clock is used to measure the time between two events by:

reading the time value of the CPU clock at two different times;

estimating the number of ticks between the time values; and

calculating the actual time between the events by means of the number of ticks per time unit.

2. (Previously Presented) The method of claim 1, characterized in that the information data is sent in the form of packet data frames.

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3. (Previously Presented) The method of claim 2, characterized in that the packet data frames are audio frames.

4. (Cancelled)

5. (Previously Presented) The method of claim 1, characterized in that in said conversion method the amount of samples in the packet frames are changed.

6. (Previously Presented) The method of claim 1, characterized in that in step c), the controlling of the play-out of received data at said receiving side by means of the sampling rate estimated at said sending side is carried out by synchronizing the receiver's sampling rate to the sender's sampling rate.

7. (Previously Presented) The method of claim 6, characterized in that the synchronization is carried out by means of a PLL.

8. (Previously Presented) The method of claim 1, characterized in that the method is performed in a two-way communication between at least two transceivers in such a way that

an estimation of the sender's sampling frequency is performed at the sending side of a first transceiver,

the estimation is transmitted to the receiving side of a second transceiver,

the playing out of the received data is controlled at said receiving side of said second transceiver by means of the sampling rate estimated at said sending side of said first transceiver,

the estimation of the sampling rate estimated at said sending side of the first transceiver is used by said second transceiver in the transmitting of messages from the second transceiver to the first transceiver in the communication between said transceivers.

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9. (Previously Presented) The method of claim 1, characterized in that it is performed in a two-way communication between at least two transceivers in such a way that

an estimation of the sender's sampling frequency is performed at the sending side of a first transceiver,

the estimation is transmitted to the receiving side of a second transceiver,

the playing out of the received data is controlled at said receiving side of said second transceiver by means of the sampling rate estimated at said sending side of said first transceiver,

an estimation of the sampling frequency of the sending side of said second transceiver is performed at said sending side of said second transceiver,

the estimation of the sampling frequency of said sending side of said second transceiver is transmitted to the receiving side of said first transceiver,

and the play-out of the received data is controlled at said receiving side of said first transceiver by means of the sampling rate estimated at said sending side of said second transceiver.

10. (Previously Presented) The method of claim 1, characterized in that the transmitting in step b) is done at call setup so that received data can immediately be used at the receiving side to avoid initial delays in the compensation before the presentation.

11. (Cancelled)

12. (Previously Presented) The method of claim 1, characterized in that the estimation is either or both incorporated in regular reports within standard control packets or transmitted as separate reports within individual packets.

13. (Cancelled)

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14. (Currently Amended) The method of claim [[13]] 1, characterized in that the time is measured between two time synchronization events.

15. (Previously Presented) The method of claim 14, characterized in that in the time synchronization event, a host clock is synchronized to an external clock.

16. (Currently Amended) The method of claim [[13]] 1, characterized in that the time is measured between two frame delivers of packet data.

17. (Cancelled)

18. (Currently Amended) The method of claim [[17]] 1, characterized in that the number of ticks per second is estimated by means of a long term stable time reference and the CPU clock.

19. (Previously Presented) The method of claim 18, characterized in that the long term stable time reference is a synchronized host clock.

20. (Currently Amended) The method of claim [[17]] 1, characterized in that the number of ticks per second is calculated as a function of the time difference between two CPU clock values at specific events and the time difference between two reference time values at the same events.

21. (Currently Amended) The method of claim [[17]] 1, characterized in that the number of ticks per second is calculated as a moving average of the last few estimations.

22. (Previously Presented) The method of claim 1, characterized in that the estimation in step a) is carried out at a time synchronization event.

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23. (Previously Presented) The method of claim 1, characterized in that the status of a soundboard buffer is polled before estimation, continuously or in connection with specific events.

24. (Previously Presented) The method of claim 23, characterized in that the estimation is carried out by means of the time difference between time values at two synchronization events and the time difference between two reference time values at the same events.

25. (Previously Presented) The method of claim 1, characterized in that the estimation in step a) is carried out by means of a moving average of the last few estimations.

26. (Previously Presented) The method of claim 1, characterized in that the estimation process is performed continuously.

27-37. (Cancelled)